



0321.68261

PATENT APPLICATION

COJL
\$IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Andrew B. Kahng
Serial No.: 10/670,134
Patent No.: 7,062,743
Conf. No.: 2537
Filed: 9/24/2003
Issued: 06/13/2006
For: FLOORPLAN EVALUATION,
GLOBAL ROUTING, AND
BUFFER INSERTION FOR
INTEGRATED CIRCUITS
Art Unit: 2825
Examiner: Levin, Naum B.

I hereby certify that this paper is being deposited with the United States Postal Service as FIRST-CLASS mail in an envelope addressed to: Attn: Certificate of Correction; Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date.

3-28-07

Date

Am B. Kahng

Registration No. 43,874

Attorney for Applicant(s)

REQUEST FOR CERTIFICATE OF CORRECTION UNDER RULE 323

Attn: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate

APR 04 2007

of Correction

Dear Sir:

In accordance with 37 C.F.R. § 1.323, patentees, through their attorneys, respectfully request that a Certificate of Correction be issued in the above-referenced patent to correct the following errors:

04/03/2007 MBELETE2 00000005 7062743

01 FC:1811

100.00 0P

APR 04 2007

On The Face Of The Patent:

References Cited, Other Publications, Page 2, Col. 2, line 18, after “modify flow and other”, please delete “fractional packaging problems”, and insert --fractional packing problems--therefor. (PTO Form 1449, submitted March 3, 2004, Acknowledged July 6, 2005)

In The Issued Patent:

Col. 3, line 14, after “representation of”, please delete “step 12”, and insert --step 10--therefor.

Col. 12, line 6, please delete “ $0 \leq i \leq U'$ ”, and insert -- $0 \leq i < U'$ --therefor.
(Specification, page 19, line 18)

Col. 14, line 44, after “one”, please delete “net sources”, and insert --net source-- therefor. (Amendment A, page 3, line 3)

Col. 14, line 64, after “said”, please delete “tile graph C”, and insert --tile graph G--therefor. (Amendment A, page 3, claim 3, line 17)

Col. 15, line 27, after “said”, please delete “a gadget”, and insert --gadget-- therefor. (Amendment A, page 4, claim 4, line 2)

Col. 15, line 34, after “set”, please delete “ $E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \# j \# U, 1 \# i \# k\}$ ”, and insert -- $E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \# j \# U, 1 \# i \# k\}$ -- therefor. (Amendment A, page 4, claim 4, line 8)

Col. 15, line 55, please delete “ $\min_{p \in P} \left(\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| \right) x_p$ ”, and insert -- $\min_{p \in P} \left(\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| \right) x_p$ -- therefor. (Amendment A, page 5, claim 5, line 8)

Col. 16, line 19, please delete “ $\sum_{p \in P} \left(\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| \right) x_p \leq \lambda D$ ”, and insert -- $\sum_{p \in P} \left(\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| \right) x_p \leq \lambda D$ -- therefor. (Amendment A, page 6, claim 6, line 6)

Col. 16, line 22, please delete “ $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$ ”, and insert -- $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$, -- therefor. (Amendment A, page 6, claim 6, line 7)

Col. 16, line 24, please delete “ $\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda v_0 w(u, v)$,” and insert --

$$\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda v_0 w(u, v), \text{ -- therefor. (Amendment A, page 6, claim 6, line 8)}$$

Col. 16, line 53, please delete

$$\text{“} \sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i \text{”}, \text{ and insert}$$

$$\text{--} \sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i \text{-- therefor. (Amendment A,}$$

page 6, claim 7, line 8)

Col. 16, line 55, please delete “ $y_v \geq 0, v \in V(G)$,” and insert -- $y_v \geq 0$,

$v \in V(G)$;-- therefor. (Amendment A, page 6, claim 7, line 9)

Col. 16, line 56, please delete “ $z_e \geq 0, e \in E(G)$,” and insert -- $z_e \geq 0$,

$e \in E(G)$.--therefor. (Amendment A, page 6, claim 7, line 10)

REMARKS

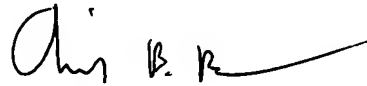
It is believed that an issuance of a Certificate of Correction would be appropriate to correct these clerical errors. A Certificate of Correction incorporating the above-delineated changes is enclosed in duplicate herewith.

Patentees enclose the appropriate fee, pursuant to 37 C.F.R. § 1.20(a), of \$100.00. The Commissioner is authorized by the undersigned to charge any additional fees to Deposit Account No. 07-2069. A duplicate of this page is enclosed herewith.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By



Arik B. Ranson
Registration No. 43,874

Customer No. 24978

March 28, 2007

300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
Telephone: (312) 360-0080
Facsimile: (312) 360-9315



0321.68261

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Andrew B. Kahng
Serial No.: 10/670,134
Patent No.: 7,062,743
Conf. No.: 2537
Filed: 9/24/2003
Issued: 06/13/2006
For: FLOORPLAN EVALUATION,
GLOBAL ROUTING, AND
BUFFER INSERTION FOR
INTEGRATED CIRCUITS
Art Unit: 2825
Examiner: Levin, Naum B.

I hereby certify that this paper is being deposited with the United States Postal Service as FIRST-CLASS mail in an envelope addressed to: Attn: Certificate of Correction; Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date.

3-28-07

Date

Am B. Kahng

Registration No. 43,874

Attorney for Applicant(s)

COPY

REQUEST FOR CERTIFICATE OF CORRECTION UNDER RULE 323

Attn: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 C.F.R. § 1.323, patentees, through their attorneys, respectfully request that a Certificate of Correction be issued in the above-referenced patent to correct the following errors:

APR 04 2007

On The Face Of The Patent:

References Cited, Other Publications, Page 2, Col. 2, line 18, after “modify flow and other”, please delete “fractional packaging problems”, and insert --fractional packing problems--therefor. (PTO Form 1449, submitted March 3, 2004, Acknowledged July 6, 2005)

In The Issued Patent:

Col. 3, line 14, after “representation of”, please delete “step 12”, and insert --step 10--therefor.

Col. 12, line 6, please delete “ $0 \leq i \leq U$ ”, and insert -- $0 \leq i < U$ --therefor.
(Specification, page 19, line 18)

Col. 14, line 44, after “one”, please delete “net sources”, and insert --net source-- therefor. (Amendment A, page 3, line 3)

Col. 14, line 64, after “said”, please delete “tile graph C”, and insert --tile graph G--therefor. (Amendment A, page 3, claim 3, line 17)

Col. 15, line 27, after “said”, please delete “a gadget”, and insert --gadget-- therefor. (Amendment A, page 4, claim 4, line 2)

Col. 15, line 34, after “set”, please delete “ $E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \# j \# U, 1 \# i \# k\}$ ”, and insert -- $E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \# j \# U, 1 \# i \# k\}$ -- therefor. (Amendment A, page 4, claim 4, line 8)

Col. 15, line 55, please delete “ $\min_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p$ ”, and insert -- $\min_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p$ -- therefor. (Amendment A, page 5, claim 5, line 8)

Col. 16, line 19, please delete “ $\sum_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p \leq \lambda D$ ”, and insert -- $\sum_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p \leq \lambda D$ -- therefor. (Amendment A, page 6, claim 6, line 6)

Col. 16, line 22, please delete “ $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$ ”, and insert -- $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$, -- therefor. (Amendment A, page 6, claim 6, line 7)

Col. 16, line 24, please delete “ $\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda \nu_0 w(u,v)$,” and insert --

$\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda \nu_0 w(u,v)$, -- therefor. (Amendment A, page 6, claim 6, line 8)

Col. 16, line 53, please delete

“ $\sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i$,” and insert

-- $\sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i$ -- therefor. (Amendment A,

page 6, claim 7, line 8)

Col. 16, line 55, please delete “ $y_v \geq 0, v \in V(G)$,” and insert -- $y_v \geq 0$,

$v \in V(G)$ -- therefor. (Amendment A, page 6, claim 7, line 9)

Col. 16, line 56, please delete “ $z_e \geq 0, e \in E(G)$,” and insert -- $z_e \geq 0$,

$e \in E(G)$ --therefor. (Amendment A, page 6, claim 7, line 10)

REMARKS

It is believed that an issuance of a Certificate of Correction would be appropriate to correct these clerical errors. A Certificate of Correction incorporating the above-delineated changes is enclosed in duplicate herewith.

Patentees enclose the appropriate fee, pursuant to 37 C.F.R. § 1.20(a), of \$100.00. The Commissioner is authorized by the undersigned to charge any additional fees to Deposit Account No. 07-2069. A duplicate of this page is enclosed herewith.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By



Arik B. Ranson
Registration No. 43,874

Customer No. 24978

March 28, 2007

300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
Telephone: (312) 360-0080
Facsimile: (312) 360-9315

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,062,743
DATED : June 13, 2006
INVENTOR(S) : Kahng et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Issued Patent:

References Cited, Other Publications, Page 2, Col. 2, line 18, after "modify flow and other", please delete "fractional packaging problems", and insert --fractional packing problems--therefor.

Col. 3, line 14, after "representation of", please delete "step 12", and insert --step 10--therefor.

Col. 12, line 6, please delete " $0 \leq i \leq U$ ", and insert -- $0 \leq i < U$ --therefor.

Col. 14, line 44, after "one", please delete "net sources", and insert --net source-- therefor.

Col. 14, line 64, after "said", please delete "tile graph C", and insert --tile graph G--therefor.

Col. 15, line 27, after "said", please delete "a gadget", and insert --gadget-- therefor.

Col. 15, line 34, after "set", please delete " $E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \leq j \leq U, 1 \leq i \leq k\}$ ", and insert --
 $E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \leq j \leq U, 1 \leq i \leq k\}$ -- therefor.

Col. 15, line 55, please delete " $\min_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p$ ", and

insert -- $\min_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p$, -- therefor.

MAILING ADDRESS OF SENDER:

Steven P. Fallon
GREER, BURNS & CRAIN, LTD.
300 South Wacker Drive, 25th Floor
Chicago, IL 60606

Page 1 of 2

PATENT NO 7,062,743

No. of additional copies1



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comment on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

APR 04 2007

COPY

PTO/SB/44 (02-01)

Approved for use through 01/31/2004. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,062,743
DATED : June 13, 2006
INVENTOR(S) : Kahng et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Issued Patent:

References Cited, Other Publications, Page 2, Col. 2, line 18, after "modify flow and other", please delete "fractional packaging problems", and insert --fractional packing problems--therefor.

Col. 3, line 14, after "representation of", please delete "step 12", and insert --step 10--therefor.

Col. 12, line 6, please delete " $0 \leq i \leq U'$ ", and insert -- $0 \leq i < U'$ --therefor.

Col. 14, line 44, after "one", please delete "net sources", and insert --net source-- therefor.

Col. 14, line 64, after "said", please delete "tile graph C", and insert --tile graph G--therefor.

Col. 15, line 27, after "said", please delete "a gadget", and insert --gadget-- therefor.

Col. 15, line 34, after "set", please delete " $E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \neq j \neq U, 1 \neq i \neq k\}$ ", and insert --

$E_{sink} = \{(v_j, t_i) \mid v \in T_i, 0 \neq j \neq U, 1 \neq i \neq k\}$ -- therefor.

Col. 15, line 55, please delete " $\min_{p \in P} \left(\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| \right) x_p$ ", and

insert -- $\min_{p \in P} \left(\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| \right) x_p$, -- therefor.

MAILING ADDRESS OF SENDER:

Steven P. Fallon
GREER, BURNS & CRAIN, LTD.
300 South Wacker Drive, 25th Floor
Chicago, IL 60606

Page 1 of 2

PATENT NO 7,062,743

No. of additional copies 1



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comment on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

JUN 14 2007

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,062,743
DATED : June 13, 2006
INVENTOR(S) : Kahng et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Issued Patent:

Col. 16, line 19, please delete " $\sum_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p \leq \lambda D$;" and insert --

$$\sum_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p \leq \lambda D ; -- \text{therefor.}$$

Col. 16, line 22, please delete " $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$," and insert -- $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$,

-- therefor.

Col. 16, line 24, please delete " $\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda \nu_0 w(u, v)$," and insert --

$$\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda \nu_0 w(u, v), -- \text{therefor.}$$

Col. 16, line 53, please delete " $\sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i$,"

and insert -- $\sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i$;-- therefor.

Col. 16, line 55, please delete " $y_v \geq 0, v \in V(G)$;" and insert -- $y_v \geq 0, v \in V(G)$;-- therefor.

Col. 16, line 56, please delete " $z_e \geq 0, e \in E(G)$," and insert -- $z_e \geq 0, e \in E(G)$.--therefor.

MAILING ADDRESS OF SENDER:

PATENT NO 7,062,743

Steven P. Fallon
GREER, BURNS & CRAIN, LTD.
300 South Wacker Drive, 25th Floor
Chicago, IL 60606

Page 2 of 2

No. of additional copies 1



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comment on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

APR 04 2007

COPY

PTO/SB/44 (02-01)

Approved for use through 01/31/2004. OMB 0651-0033

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO : 7,062,743
DATED : June 13, 2006
INVENTOR(S) : Kahng et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Issued Patent:

Col. 16, line 19, please delete " $\sum_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p \leq \lambda D$;" and insert --

$$\sum_{p \in P} (\alpha \sum_{v \in V(G)} |p \cap E_v| + \beta \sum_{(u,v) \in E(G)} |p \cap E_{u,v}|) x_p \leq \lambda D ;-- \text{therefor.}$$

Col. 16, line 22, please delete " $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$," and insert -- $\sum_{p \in P} |p \cap E_v| x_p \leq \lambda \mu_0 b(v)$,

-- therefor.

Col. 16, line 24, please delete " $\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda \nu_0 w(u, v)$," and insert --

$$\sum_{p \in P} |p \cap E_{u,v}| x_p \leq \lambda \nu_0 w(u, v), -- \text{therefor.}$$

Col. 16, line 53, please delete " $\sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i$,"

and insert -- $\sum_{v \in V(G)} |p \cap E_v| (y_v + \alpha u) + \sum_{(u,v) \in E(G)} |p \cap E_{u,v}| (z_{u,v} + \beta u) \geq l_i, p \in P_i$;-- therefor.

Col. 16, line 55, please delete " $y_v \geq 0, v \in V(G)$," and insert -- $y_v \geq 0, v \in V(G)$;-- therefor.

Col. 16, line 56, please delete " $z_e \geq 0, e \in E(G)$," and insert -- $z_e \geq 0, e \in E(G)$;--therefor.

MAILING ADDRESS OF SENDER:

PATENT NO 7,062,743

Steven P. Fallon
GREER, BURNS & CRAIN, LTD.
300 South Wacker Drive, 25th Floor
Chicago, IL 60606

Page 2 of 2

No. of additional copies1



Burden Hour Statement: This form is estimated to take 1.0 hour to complete. Time will vary depending upon the needs of the individual case. Any comment on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

APR 04 2007